Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

1. (Currently Amended) A method for manufacturing a highly-crystallized oxide powder, wherein an oxide powder is produced by ejecting a starting material powder comprising at least one element selected from the group consisting of metal elements and semimetal elements that will become a constituent component of the oxide which is to be produced into a reaction vessel together with a carrier gas through a nozzle; and heating the starting material powder at a temperature higher than the decomposition temperature or reaction temperature thereof and not lower than (Tm/2)°C, where Tm°C stands for a melting point of the oxide which is to be produced, in a state in which the starting material powder is dispersed in a gas phase at a concentration of not higher than 10 g/L, wherein an oxygen source for the oxide powder is supplied from the starting material powder and/or the carrier gas.

2. (Original) The method according to claim 1, wherein the starting material powder is ejected into the reaction vessel under the condition that V/S >600, where V (L/min) is a flow rate of the carrier gas per unit time and S (cm2) is a cross-sectional area of the opening of the nozzle.

3. (Original) The method according to claim 1, wherein the starting material powder is mixed and dispersed in the carrier gas with a dispersing machine prior to being ejected into the reaction vessel through the nozzle.

4. (Original) The method according to claim 1, wherein the particle size of the starting material powder is adjusted in advance.

5. (Original) The method according to claim 1, wherein the starting material powder comprises at least two elements selected from the group consisting of metal elements and semimetal elements at a substantially constant compositional ratio in individual particles of the starting material powder and the produced oxide is a double oxide.

6. (Original) The method according to claim 5, wherein individual particles constituting the starting material powder are composed of an alloy comprising at least two elements selected from the group consisting of metal elements and semimetal elements or a composite comprising at least two materials selected from the group consisting of metals, semimetals, and compounds thereof, or composed of a single compound comprising at least two elements selected from the group consisting of metal elements and semimetal elements.

7. (Currently Amended) A method for manufacturing a highly-crystallized oxide powder, comprising:

producing a starting material powder comprising at least two elements selected from the group consisting of metal elements and semimetal elements that will become constituent components of the oxide which is to be produced, at a substantially constant compositional ratio in individual particles of the starting material powder;

collecting the starting material powder;

dispersing the collected starting material powder in a carrier gas by using a dispersing machine;

ejecting the carrier gas having the starting material powder dispersed therein into a reaction vessel through a nozzle; and

producing a double oxide powder by heating the starting material powder at a temperature higher than the decomposition temperature or reaction temperature thereof and not lower than (Tm/2)°C, where Tm°C stands for a melting point of the double oxide which is to be produced, in a state in which the starting material powder is dispersed in a gas phase at a concentration of not higher than 10 g/L, wherein an oxygen source for the oxide powder is supplied from the starting material powder and/or the carrier gas.

8. (Original) The method according to claim 7, wherein the carrier gas having the starting material powder dispersed therein is ejected into the reaction vessel under the condition that V/S >600, where V (L/min) is a flow rate of the carrier gas per unit time and S (cm2) is a cross-sectional area of the opening of the nozzle.

9. (Original) The method according to claim 7, wherein the particle size adjustment is conducted with a grinding machine before the starting material powder is dispersed in the carrier gas or after it has been dispersed.

10. (Original) The method according to claim 7, wherein individual particles constituting the starting material powder are composed of an alloy comprising at least two elements selected from the group consisting of metal elements and semimetal elements or a composite comprising at least two materials selected from the group consisting of metals, semimetals, and compounds thereof, or composed of a single compound comprising at least two elements selected from the group consisting of metal elements and semimetal elements.

11. (Original) A highly-crystallized oxide powder, which is manufactured by the method according to claim 1.

12. (Original) A highly-crystallized oxide powder, which is manufactured by the method according to claim 7.

13. (Original) A highly-crystallized oxide phosphor powder, which is manufactured by the method according to claim 1.

14. (Original) A highly-crystallized oxide phosphor powder, which is manufactured by the method according to claim 7.

15. (Original) A phosphor composition comprising the highly-crystallized oxide phosphor powder according to claim 13.

16. (Original) A phosphor composition comprising the highly-crystallized oxide phosphor powder according to claim 14.

17. (Currently Amended) A method for the manufacture of a single-crystal oxide powder, wherein a single-crystal oxide powder is produced by supplying a starting material powder comprising at least one element selected from the group consisting of metal elements and semimetal elements that will become a constituent component of the oxide which is to be produced into a reaction vessel together with a carrier gas through a nozzle; and heating the starting material powder at a temperature higher than the decomposition temperature or reaction temperature thereof and close to or not lower than the melting point of the oxide which is to be produced, in a state in which the starting material powder is dispersed in a gas phase at a concentration of not higher than 10 g/L, wherein an oxygen source for the oxide powder is supplied from the starting material powder and/or the carrier gas.

18. (Original) A single-crystal oxide powder which is manufactured by the method according to claim 17.